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STATUS OF MOUNTAIN PINE BEETLE INFESTATION IN LODGEPOLE PINE,
MEDICINE LAKE, CALIFORNIA. SEASON OF 1938.

SALMAN, K. A.
BERKELEY, CALIFORNIA
SEPTEMBER 10, 1938

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STATUS OF MOUNTAIN PINE BEETLE INFESTATION IN LODGEPOLE PINE,
MEDICINE LAKE, CALIFORNIA.
Season of 1938

On July 24, 1938, an examination was made of current infestation conditions in lodgepole stands at Medicine Lake. At that time a clear understanding of what was going on could not be secured due to the influences of several conflicting factors that seemed to obscure the general seasonal trend. As a result, it was concluded that another examination should be made later in the season. That examination was made on September 4 and 5, 1938.

SEASONAL TRENDS.

A marked drop in the number of trees infested during 1938 was evident. Instead of a total of nearly 300 trees, which were killed in 1937, it is estimated that the 1938 kill will not exceed 50 trees. However, epidemic tendencies still exist and the prospect of a heavier 1939 loss is likely unless infestation trends in the overmature stands and the type of attack changes between now and then.

ANALYSIS OF INFESTATION CONDITIONS.

There appear to be three reasons for the lack of activity during 1938 in the mature, previously uninfested stands to the southwest, west and northwest of the lake. All three reasons have to do with a lack of a heavy population of beetles available to attack and infest green trees. That factor appears to be the important one determining the rate of death in the stands in this area at this time.

The first reason for the marked drop in activity is believed to be the control work done last fall. Although all infested trees were not treated by the project, the largest centers of infestation along the southwest margin of the lake were treated. That broke up the force of the attack at the point where, if it had been left untreated, it would have been expected that most of the 1938 loss would be centered. In the treated area (roughly from Brownell's east to the area of previously heavy infestation), but eleven 1938 infested trees were found. None of these were in large groups. Four were infested as a result of partial injury by fire. Three were completions of partial 1937 infestations. The other four occurred in two groups of two trees each.

In contrast, in the untreated area twenty-two infested trees were found. Most of these were in the immediate vicinity of small untreated groups of 1937 infestation. Immediately to the west of the front of the 1937 infestation near Brownell's, six scattered infested trees were found. More distant and to the west and north one group of four 1937 trees infested eight 1938 trees. One group of three 1937 trees infested seven additional trees in 1938. Near Little Medicine Lake one 1937 tree infested another 1938 tree. Thus in the heavily infested treated area there has been a marked decrease in infestation. In the lightly infested untreated area there has, in general, been an increase.

The second reason for the drop in infestation has been the extremely cold season. The mountain pine beetle usually completes a life cycle each year. However, it was apparent that development was held back this season to the extent that some larvae and a considerable number of adults of last year's brood may continue through the winter in untreated trees infested in 1937. Also attacks in 1938 occurred late and, in most trees, the adults are just now constructing brood galleries.

The third reason for the drop in infestation has been the abundance of windthrown and snow broken material which has absorbed large numbers of individuals that otherwise would have attacked green trees. It is possible that successful development may take place in this infested material. However, that is doubtful. Examination of such material showed that, in general, the larval broods resulting from such attacks were in poor condition.

SUMMARY.

1. If the 1938 and the 1937 infestations are compared it is evident that a marked reduction in the amount of infestation has occurred in 1938.
2. In spite of that reduction, epidemic tendencies still are continuing in the untreated areas and the attacks on green trees are vigorous.
3. The reduction in infestation appears to have been brought about chiefly by: (a) control, (b) a cool season, and (c) the absorption of potential attacks by abundant windthrown and snow broken material.

RECOMMENDATIONS.

No large scale control program is indicated. However, it is considered advisable to treat the small nuclei now existing because of the epidemic tendencies exhibited by the infestation. It seems desirable to continue an attack on a small number of trees rather than wait until a larger number are infested next year. It is believed that thirty-three trees found during the examination constitute a major portion of the total infestation. Most of the trees that were found have been blazed. Their general location can be given on request.

This work should not be expensive. Three good men, well equipped and supplied with a single horse or a team to snake the trees to openings, probably could treat all known infested trees in a week's time.

Respectfully submitted,

K. A. Salman
Entomologist.

Berkeley, California
September 10, 1938.

MEMORANDUM FOR MR. MILLER

CHECK OF 1933-1934 BADGER INSECT CONTROL PROJECT RESULTS

K.A. SALMAN
BERKELEY, CALIFORNIA
JUNE 27, 1934